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AUTHOR	Holloway, William H.: And Others
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ABSTRACT

The research reported in this speech was initiated to examine the concerns of professional educators in Kansas in relation to the Education for All Handicapped Children Act (Public Law 94-142). The longitudinal design incorporates the use of the Stages of Concern Questionnaire (SOCQ) and provides a basis for (1) an annual examination of educators' concerns toward the law: (2) the change in concerns over time: (3) a test of the developmental change theory incorporated in the Concerns Based Adoption Model (CBAM): and (4) the design and development of a new instrument, the General Concerns Inventory (GCI). The results, available from two years of study (1978 and 1979), indicate that Kansas educators are in an early stage of adoption, little change has occurred in the one-year interval, the validity of the developmental theory received support, and refinement of the GCI is indicated. (Author/MLF)

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POLICY ANALYSIS: AN ASSESSMENT OF PUBLIC SCHOOL EDUCATORS' CONCERNS IN RELATION TO P.L. 94-142

William H. Holloway
Dawn S. Eros
The University of Kansas
and
Michael E. Kerr
The University of South Dakota

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ABSTRACT

The research reported herein was initiated to examine the concerns of professional educators in the State of Kansas in relation to P.L. 94-142, the "Least Restrictive Environment" mandate. The longitudinal design incorporates the use of Hall, et. al.'s Stages of Concern Questionnaire (SoCQ) and provides a basis for (1) an annual examination of educator's concerns toward P.L. 94-142, (2) the change in concerns over time, (3) a test of the developmental change theory incorporated in the Concerns Based Adoption Model (CBAM: Hall, et. al. 1973) and (4) the design and development of a new instrument, the General Concerns Inventory (GCI; Holloway and Kerr, 1979). The results, now available from two years of study (1978 and 1979), indicate that (1) Kansas educators are in an early stage of adoption, (2) little change has occurred in the one-year interval, (3) the validity of the developmental theory received support, and (4) refinement of the GCI is indicated.

William H. Holloway is associate professor and chairman of the Department of Administration, Foundations, and Higher Education in the School of Education at the University of Kansas. Dawn S. Eros is a candidate for the degree Doctor of Philosophy in statistics and research design and presently the Acting Director of the Office of Administrative and Instructional Development Services (AIDS). Michael E. Kerr is an assistant professor in educational psychology in the School of Education at the University of South Dakota.

POLICY ANALYSIS: AN ASSESSMENT OF PUBLIC SCHOOL EDUCATOR'S CONCERNS IN RELATION TO P.L. 94-142

William H. Holloway, Dawn S. Eros
and Michael E. Kerr

If policy is defined[1] as a course or line of action adopted and pursued by a government, then P.L. 94-142 clearly constitutes a policy of the United States government which mandates "education in the least restrictive environment" (LRE). The policy became law in 1975 and provided public school districts four years of lead time before mandated enactment of the various provisions in 1979.

Further, (if not interpreted in the limited sense of an investigation of the constituent elements of a whole) the term policy analysis incorporates a number of study methodologies focused on a variety of research objectives. Thus, interpretation in the more comprehensive manner might well include an assessment of need for policy, case studies of implementation, comparitive studies of implementation, and a substantial number of studies of effect including longitudinal,comparitive, and time-series analysis. Indeed, Crain and Mahard[2] have identified 73 studies devoted to the desegregation issue and estimate that there may be as many as 100 more that remain unlocated.

The study is longitudinal in nature though only two years of data are currently available. The focus is the long-term effects of the implementation of P.L. 94-142 on a stratified random sample of public school educators in the State of Kansas. The importance of the study is two-fold. For the scholar,

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[1] Barnhart, Clarence L. (Ed.). The American College Dictionary. New York: Random House, 1965.

[2] Crain, Robert L. and Mahard, Rita E. Research on School Desegregation and Achievement: How to Combine Scholarship and Policy Relevance. Educational Evaluation and Policy Analysis, 1-4, July-August '79, pp. 5-15.

the study provides a test of the developmental change theory inherent in the Concerns Based Adoption Model and a new instrument the GCI which has currency for the investigation of an important dimension in all policies. For the practitioner, there is information presented which speaks to both the organizational strategies for change implementation and a promising method for systematically monitoring the adoption phenomena.

Background and Purpose

The adoption of P.L. 94-142 promises to have considerable impact on the public education system. To establish the mandated LRE conditions, changes are required from a variety of education sources including administrators, classroom teachers, special educators, teacher trainers, and teacher preparation institutions. The successful adoption of the innovation relies heavily on the change process itself.

Prior to the works of Fuller[3] and Hall[4], no strong conceptual base for the large scale investigation and assessment of the change process was available. Hall expanded on Fuller's theories and formulated the Concerns-Based Adoption Model which identifies the various levels that are reached in progression during an intervention. As part of the CBAM, the Stages of Concern (SoC) dimension addresses individuals' feelings toward and perceptions about an innovation and involves seven developmental stages of concern through which those from whom change is required are likely to move during the implementation effort. The extent that the change process has been facilitated effectively, individuals' concerns tend to move from focus on the earlier

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[3] Fuller, F.F. Concerns of teachers: A developmental conceptualization. American Educational Research Journal, March 1969, 6 (2), 207-226.

[4] Hall, Gene E., and Rutherford, William L. Concerns of Teachers About Implementing the Innovation of Team Teaching, Published by the Research and Development Center for Teacher Education at the University of Texas at Austin, 1975.

to the later stages. With a given innovation, study of this transition should have utility as a tool for diagnosing and monitoring the requisite change efforts and should further carry implication for strategies needed to facilitate and promote planned change.

Since the passage in 1975 of P.L. 94-142, the Education for all Handicapped Children Act, educators at all levels have focused a great deal of attention on the concept of "mainstreaming" or "least restrictive environment" (LRE). As with any innovation introduced into a system, the process of change becomes a crucial issue. However, when the innovation is mandated by legislative act, there often are much stronger administrative policy implications involved in the subsequent change processes and implementation efforts. From both applied and theoretical perspectives, the present study employs the Concerns-Based Adoption Model (CBAM) in a longitudinal examination of the concerns of Kansas educators regarding P.L. 94-142. The primary objectives were:

1. To assess the a priori status regarding the types and levels of educators' relevant concerns just prior to the law's mandatory implementation in the Fall of 1979 and provide data on the differential concerns of various sub-groups.
2. To evaluate the longitudinal rates and patterns of concerns profile changes as reflected by subsequent policy decisions.
3. To test the theory underlying the developmental nature and sequential order of change as proposed by the CBAM.
4. To develop and test a generalized concerns instrument.

METHOD

Instruments

LRE related concerns data was collected through the administration of two instruments. The first instrument was Gene Hall's[5] Stages of Concerns Questionnaire (SoCQ). The SoCQ measures self-report concerns on a Likert-type scale. Stage scores are derived by summing five different items for the seven stages defined as follows.

1. Stage 0 - Awareness: little concern about or involvement with the innovation is indicated.
2. Stage 1 - Informational: general awareness of the innovation and interest in general characteristics, requirements for use, and learning more about it is indicated.
3. Stage 2 - Personal: uncertainty about the demands of the innovation in terms of 1) personal adequacy to implement it, and 2) personal role in the organizational structures related to it.
4. Stage 3 - Management: focus is on the processes and tasks of using the innovation.
5. Stage 4 - Consequence: focus is on the impact of the innovation on students.
6. Stage 5 - Collaboration: focus on coordination and cooperation with others in using the innovation.
7. Stage 6 - Refocusing: focus is on the exploration of universal

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[5] Hall, Gene E., George, Archie A., Rutherford, William L. Measuring of Stages of Concern About the Innovation: A Manual for Use of the SoC Questionnaire. Published by the Research and Development Center for Teacher Education at the University of Texas at Austin, 1979.

benefits from the innovation and any changes needed to increase them.

A newly developed, revised, more generalized form of the instrument[6], the General Concerns Inventory, was also administered. The GCI was designed to measure the same seven stages as was the SoCQ, also using a Likert-type scale. However, it was written to be less specific to educational innovations and the number of items included in each stage score varied across stages.

In addition to the concerns stage items, three other sets of items were included on each questionnaire. Demographic items included were age, sex, highest degree earned, primary responsibility, years taught, present teaching assignment and size of district. Three LRE information items were prior acquaintance, prior training and agreement with the concept of mainstreaming.

Finally, a Validation Scale (VS), which provided a summary statement for each stage, was included. Respondents were asked to rate their level of concern at each stage (high, moderate or low).

Data Collection

The SoCQ was sent to a random-stratified sample of 2000 Kansas public school educators (administrators and teachers) in the Spring of 1978 and again to a second sample of 1500 educators in Spring, 1979. The GCI was also sent to a third sample of 1500 educators in the Spring of 1979. Each of these samples was stratified according to district size to ensure

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[6] Holloway, William H. and Kerr, Michael E. Generalized Concerns Inventory, The University of Kansas, 1979.

adequate representation of all districts and potential respondents were then randomly selected within each stratum. In 1979, 475 were received from the SoCQ sample and 546 from the GCI sample. A total of 739 questionnaires were received from the 1978 sample.

RESULTS

Demographic, Acquaintance, Agreement and Prior Training Variables

As a check on comparability of the three different samples (SoCQ, 1978 and 1979, and GCI, 1979), the demographic characteristics of each were examined. With the exception of one variable, all three samples showed the same distribution across categories of each variable, differing from each other by only a few percentage points.

Regarding Primary Responsibility, fewer respondents with administrative responsibility were included in the 1978 sample (2%) than in either of the 1979 samples (14%-SoCQ and 11%-GCI).

Differences between the 1978 sample and the two 1979 samples were also evidenced on the three background variables related to the LRE concept. In 1978, only 42% of those surveyed were acquainted with the concept while the proportion increased to 85% in 1979. Agreement with the concept was expressed by 49% and 57% of the 1978 and 1979 respondents, respectively. Finally, while only 19% of the 1978 sample had had prior training regarding the concept, approximately 33% reported having had such training by 1979.

Finally, to investigate the possibility of concerns differences among subgroups identifiable through demographic characteristics, descriptive and chi-square analyses were performed breaking on several of the variables. Analyses were also performed breaking on the three LRE concept variables. While there were some small concerns profile differences among groups, these were not significant and the overall profile pattern for the total sample well represented those for all subgroups. All subsequent analyses were performed on the total group.

Stages of Concern Questionnaire - 1978 and 1979 Samples

The seven stage score means and standard deviations from both the 1978 and 1979 samples taking the SoCQ are presented in Table 1 and are graphed in Figure 1. Independent group t-tests were performed to compare the two samples, although the two groups were not entirely independent; some respondents were included in both samples.

Table 1 about here

Differences between the two groups were statistically significant ($p<.01$) at all stages but Stage 3. In the earlier stages (0, 1 and 2) scores of the 1978 group were higher than those of the 1979 group; the 1979 group's scores were higher on the latter three stages (4, 5 and 6). However, there is little "practical" significance in the sizes of these differences; the significance is due to the power provided by the large sample sizes.

Figure 1 about here

The interpretation of a stage score is based upon its magnitude relative to the remainder of the stages. To provide a reference for such interpretation, the mean for each group, at each stage, was compared to the percentile norms generated from Hall's (1977) standardization sample. These norms are based on individual, not group mean, scores and therefore their use as a reference for group means does not provide accurate group mean percentiles. The percentile ranks obtained, however, do provide a

basis for relative position comparisons across stages as well as an indication of the general level of concern at each stage relative to the norms.

The percentile ranks for each group are included in Table 1 and are graphed in Figure 2. The 1978 sample evidenced high levels of concern in Stages 0, 1, 2 and 3, with those in Stage 3 somewhat lower than the other three stages. The observed concerns, on the average, were slightly lower than the norm group in Stages 4 through 6. Compared to the 1978 groups, the 1979 group's concerns were slightly lower in Stages 0 through 2 but still quite high relative to the norm. The observed concerns in the latter three Stages were just at the median for the norm.

While differences do exist, the levels of concerns for both groups are very similar. In addition, the overall profiles of both groups show the same pattern of higher earlier Stage and lower latter Stage concerns.

Figure 2 about here

According to Hall's interpretive guidelines, these profile patterns are indicative of concerns present in non-users and/or individuals in the very early stages of implementation. Relative to the 1978 group, the concerns of the 1979 groups showed slight but significant downward shifts in the earlier Stages and upward shifts in the latter. However, the rate of change over the one-year period is slight.

For each sample, the factor structure of the SoCQ was examined using principle components analysis with Varimax rotation, to determine the validity of the instrument with this innovation. The emerging factors were those found by Hall but several individual items loaded on factors

other than those expected or failed to show salient loadings on any factors. However, the original scaling was done on responses of individuals representing levels of implementation from non-use to highly experienced. As indicated by the percentile rank results cited earlier, the groups in this study represent only one extreme of the predominant concerns continuum. It is possible that items reflecting concerns in aspects of implementation not yet experienced are interpreted differently by such an extreme group. In this situation, full integrity of the original scales is not expected and the actual results, therefore, are not presented.

The intercorrelation matrix for the 1979 group's scores on Stages 1 through 6 is presented in Table 2. Also included are those found by Hall in the validation sample. Because Stage 0 includes non-users as well as early users, its correlation coefficients are not included. Consistent with the theory's hypothesized order of the stages and with Hall's findings, the matrix exhibits a simplex type of pattern. Stages closer together in the sequence are more strongly related than those further apart, as reflected in the higher correlations near the diagonal. While the pattern is not as clear with the sample in this study, it is still present. The correlations found here are somewhat lower than those found by Hall, especially at the higher stages. Again, the extremity of the group with strongest concerns focused in the earlier stages, may account for part of this depression.

Table 2 about here

General Concerns Inventory - 1979 Sample

The seven stage score means[7] and standard deviations from the group taking the GCI (1979) are presented in Table 3 and graphed in Figure 3. Because the scales used on the SoCQ and the GCI differ (8-points versus 6-points, respectively) the statistics from each are not directly comparable.

Table 3 about here

Also, no uniformly distributed reference group currently exists against which the GCI scores may be compared. However, the relative patterns of raw score means across the stages provide a basis for comparing the respective responses of the two instruments. Comparison of profiles from Figures 1 and 3 provides some evidence of the concurrent validity of the GCI. With the exception of Stages 2 and 3, there is a match between the profiles of the two sets of responses.

Figure 3 about here

A reversal in the relative positions of raw scores occurs with Stages 2 and 3. Concerns at Stage 2 are high on the SoCQ but low on the GCI. Those at Stage 3 are relatively low on the SoCQ but high on the GCI. Again, the comparability of the two samples (both 1979), as evidenced by the demographic variables, discounts the plausibility of sampling error as the

[7] Because the stages on the GCI were composed of different numbers of items a mean for each individual on each stage was computed to afford comparison across stages. All subsequent reports on the GCI refer to means of these means.

cause of these differences. Possibly some element of the wording style changes enacted in the development of the GCI has caused a difference in the interpretation of the items which make up these two stages. In addition, the content of some items was changed somewhat to make them differentiate more strongly between the two stages possibly causing a breakdown in the original scale structure.

As with the SoCQ, the GCI sample represents only one extreme of the concerns continuum. Principal components analysis with Varimax rotation yielded seven factors with most items loading on the factors for which they were intended. However, these results are considered preliminary and in need of respondents representing the full range of concerns. Therefore, specific results are not included.

The intercorrelation matrix for the scores on Stages 1 through 6 is presented in Table 4. Again, the correlations of Stage 0 with all other Stages are not included. A number of Stage intercorrelations on the GCI are higher than those on the SoCQ (from this study and Hall's). The simplex type of pattern is much less evident in this matrix with stages further removed from each other in sequential order having relatively high intercorrelations.

Table 4 about here

Relationship Between the Validation Scale and SoCQ and GCI Responses

The mean concerns ratings for the seven stages as presented on the Validation Scale (SoCQ and GCI) are included in Table 5 and graphed in Figure 4.

Table 5 about here

FOr the sample taking the GCI, the profile across stages derived from the VS is almost identical to that derived from the GCI composite stage scores. However, for the sample taking the SoCQ, the Stage 2-Stage 3 reversal evidenced in the SoCQ-GCI comparison appears in the SoCQ-VS comparison also. The SoCQ raw scores were high at Stage 2, low at Stage 3 while the concerns ratings for this group were low at Stage 2 and high at Stage 3.

Figure 4 about here

DISCUSSION

Results indicated that just prior to full implementation of P.L. 94-142 in the Fall of 1979, the law had had an impact on the concerns of educators in the state of Kansas. The highest levels of concern were expressed in the Awareness, Informational and Personal Stages as they related to aspects of the concept of 'Least Restrictive Environment'. While not as high as in the first three stages, concerns expressed regarding Management of the innovation (LRE) were still rather high.

Concerns regarding Consequence, Collaboration and Refocusing were not as salient as those in the earlier stages, but still reached the median level expressed by the norm group. The fact that the changes required are mandated by legislative act, rather than chosen on an individual basis, may contribute to the overall high levels of concerns expressed.

The pattern of levels of concern is typical for users in the very early stages of implementation. This conformed to expectations, with the mandated deadline not yet in effect at the time of the survey. According to Hall's theory, the focus of concern remains in the early stages until the user gains more expertise in the use of the innovation and resolves the conflicts, either anticipated or real, represented in those stages. The likelihood that many of the respondents surveyed have gained much expertise yet is small and explains the decline of current concern with the latter stages.

From 1978 to 1979, more respondents reported prior acquaintance with training in and current agreement with the concept of LRE. Consistent with these changes, a shift also occurred in the concerns profile. The

trend in the 1979 results was toward lower Awareness, Informational and Personal concerns (earlier stages) and higher Consequence, Collaboration and Refocusing concerns (later stages). However, both the rate and magnitude of change in the profile appear to lag behind the changes in training, etc., suggesting that more implementation experience is needed to affect the concerns.

Given the status of P.L. 94-142 across the time of the study, the profile patterns of both years and the direction, magnitude and rate of change shown from 1978 to 1979 all provide evidence of the validity of the Concerns Based Adoption Model with respect to mandated change. As predicted, the rate of change is slow and progresses through an ordered developmental sequence, at least among the earlier stages.

Further study with the LRE concept is needed to monitor progress through the later stages. In addition, given the extremity of the sample surveyed, no evidence was found to refute the validity of the SoCQ for measuring the concerns referenced by the CBAM theory. To a large degree, supporting validity evidence was provided by the emergence of the intended seven factors, the simplex type of intercorrelation matrix and the confirmation of expected profiles for the existing implementation status.

The preliminary development and validation efforts with the GCI revealed several weaknesses with the instrument but also provided encouragement for further work. The cause of the reversal in Personal and Management concerns levels needs investigation as well as the failure of the intercorrelation matrix to evidence the hypothesized simplex pattern.

In addition, the GCI needs to be tested with groups representing the entire concerns continuum and further, with groups involved in implementations for which the SoCQ is an inappropriate assessment device.

Policy Implications

The study reports both levels and relative status of the concerns (as of Spring, 1979) of those individuals charged with the implementation of the LRE concept in the state of Kansas. Formation of policy regarding the focus of on-going teacher education and in-service training in the application of LRE concepts might well benefit from the knowledge of the concerns felt by the targets of such training.

At present, it seems that little benefit would be derived from extensive training focused on manipulating the consequences for students, methods for increasing impact through collaborative efforts, etc., since the predominant concerns with earlier stages have not been eased yet. Therefore, while anticipating movement into the later stages, it is recommended taht current training focus on the resolution of concerns in the earlier stages.

Since full implementation of P.L. 94-142 was mandated to be in effect by Fall, 1979, additional monitoring of concerns should accompany changes associated with this implementation and the increased expertise which should be developed over time. When warranted by concern shifts, training priority policy adjustments should be made to facilitate the changes needed to increase competency in application of the LRE concept.

In general, Hall's Concerns Based Adoption Model appears to have utility for use with mandated changes within the field of education. The potential for its further use in monitoring other innovations provides for an additional piece of information to aid the rational process of policy formation.

Table 1

Means and Standard Deviations For Comparable Samples On The SoC Questionnaire

	Stage of Concern						
	0	1	2	3	4	5	6
1978 SoCQ							
MEAN	13.5	25.0	26.6	20.7	23.7	19.7	15.7
(Percentile)	(90)	(90)	(88)	(79)	(47)	(47)	(46)
Stand. Dev.	6.1	5.7	6.5	7.3	6.7	7.5	7.5
N	700	713	721	711	710	714	686
1979 SoCQ							
MEAN	11.9	24.1	25.5	20.4	24.3	20.7	16.6
(Percentile)	(85)	(88)	(84)	(78)	(50)	(51)	(50)
Stand. Dev.	6.7	6.0	7.1	7.9	6.2	7.9	7.6
N	449	456	462	460	462	462	448

Table 2

Intercorrelation Matrix For Group Scores
On The 1979 SoCQ Sample

		Stage of Concern*					
		1	2	3	4	5	6
Stage of Concern	1	1.00	.72 (.68)	.38 (.47)	.41 (.21)	.31 (.21)	.29 (.19)
	2		1.00	.54 (.78)	.48 (.43)	.30 (.37)	.34 (.43)
	3			1.00	.31 (.60)	.12 (.51)	.43 (.59)
	4				1.00	.62 (.82)	.59 (.80)
	5					1.00	.54 (.77)
	6						1.00

* For comparison, Hall's findings are included in parentheses.

Table 3

Means And Standard Deviations By Stage
For The General Concerns Inventory

	Stage of Concern						
	0	1	2	3	4	5	6
Mean	3.2	3.8	3.0	3.8	3.7	2.9	3.1
Stand. Dev. (N=546)	1.3	1.1	1.3	1.1	1.4	1.2	1.2

Table 4

Intercorrelation Matrix For Group Scores
On The 1979 GCI Sample

		Stage of Concern					
		1	2	3	4	5	6
Stage of Concern	1	1.00	.60	.67	.46	.25	.59
	2		1.00	.61	.49	.31	.56
	3			1.00	.40	.08	.46
	4				1.00	.57	.59
	5					1.00	.52
	6						1.00

Table 5

Comparison of VS Mean Ratings Over Respective Stages For The SoCQ and GCI (1979)

	Stage of Concern						
	0	1	2	3	4	5	6
SoCQ Mean	2.25	2.35	2.15	2.35	2.45	2.20	2.10
GCI Mean	2.15	2.45	2.10	2.45	2.40	2.15	2.10

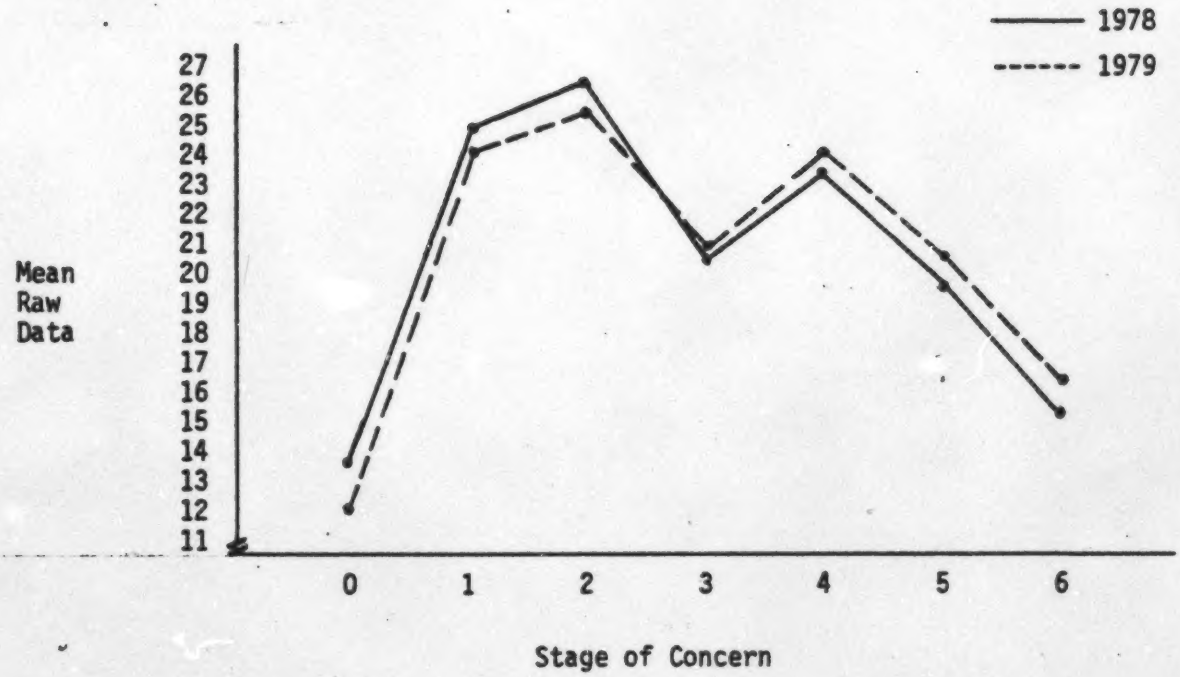

Figure 1

Profiles Of Mean Scores for Respective
Administrations Of the SoCQ

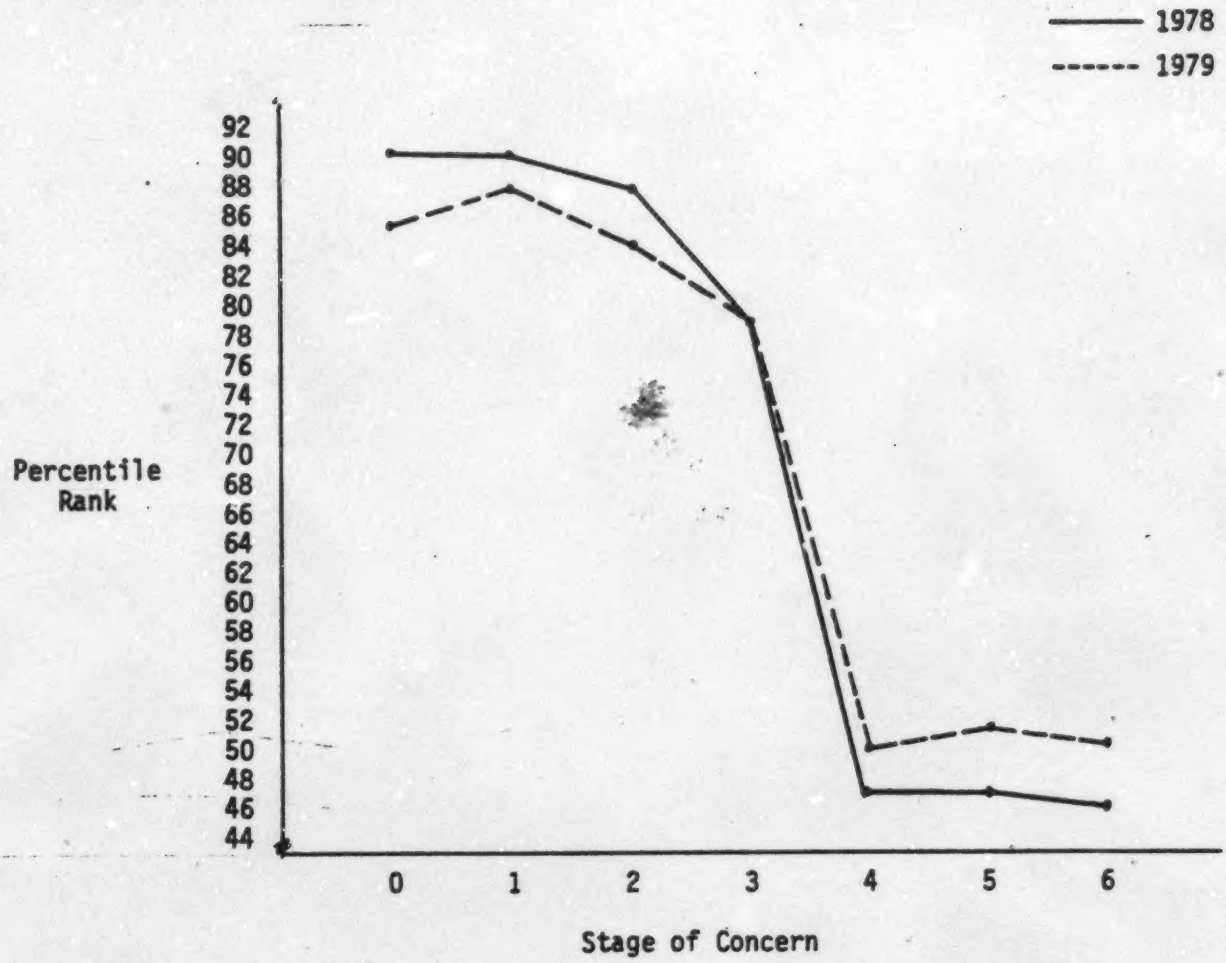

Figure 2

Profile Of Percentile Ranks For Respective Administrations Of the SoCQ.

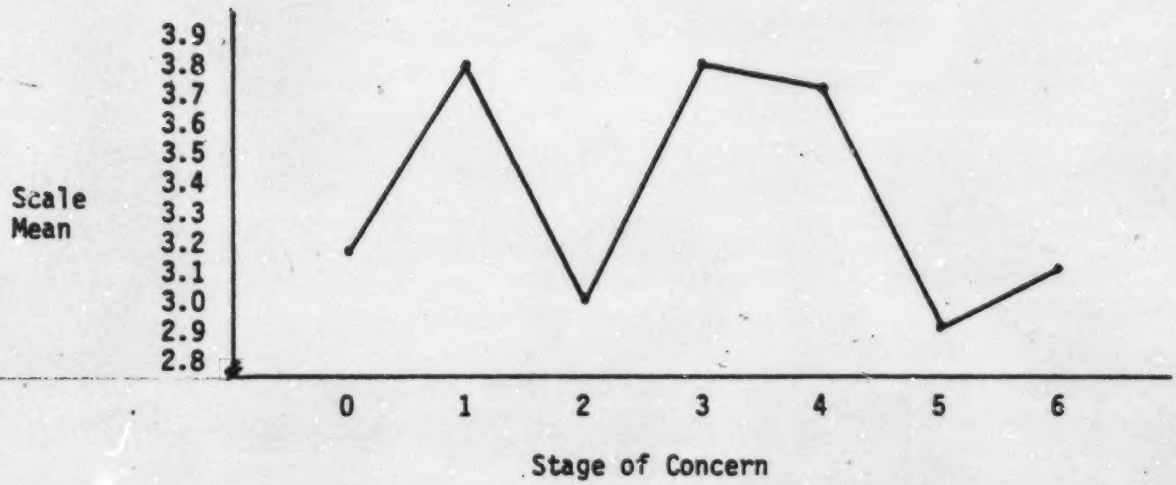

Figure 3

Profile of Stage Score Means
for the GCI (1979)

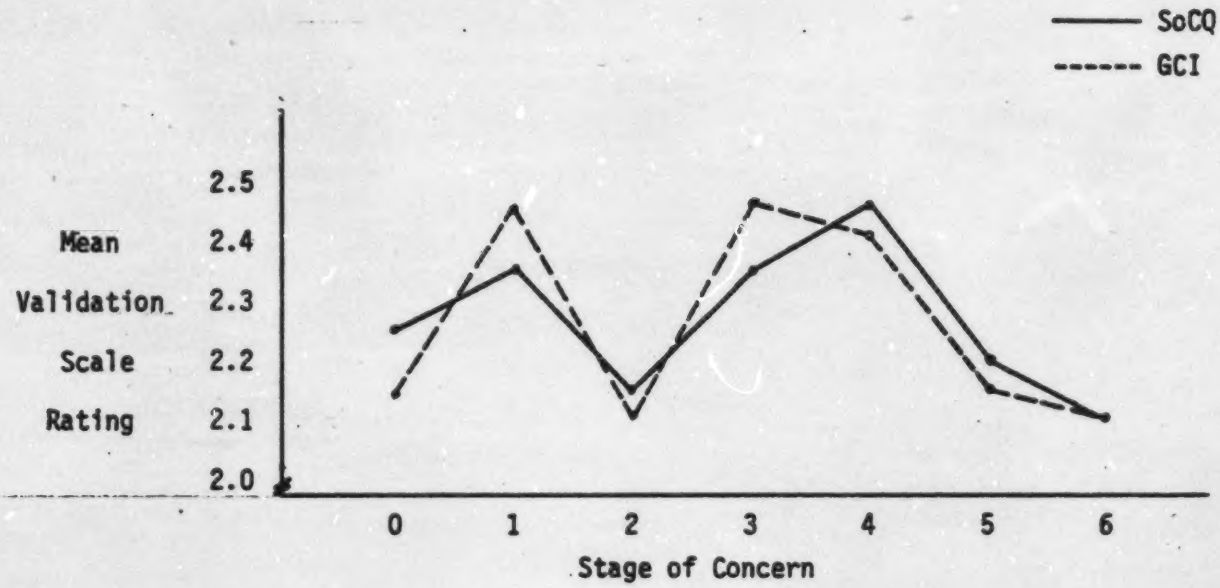

Figure 4

Comparison Of SoCQ and GCI Mean Ratings
On The Validation Scale